

**Work Order ID 75000****\*75000\***

Friday, October 14, 2011 2:52:29 PM

Ship

Page 1

Item ID: D412-702-021

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID: U/R

Stop **\*NS2\***

Item Name: 13-Man Shoulder Harness, 4 point

Start Date: 10/14/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: UMFDate: 11-10-11

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
N/A	Rev N/A								

100

0.00

**\*100\***

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels per PPP D412-702-021 CHG003

11 10 19 ①  
HGS MLIS 11-10-11

110

0.00

**\*110\***

Pick Kit

Packaging

Memo

0.00

Packaging

11/10/11

120

0.00

**\*120\***

QC4- 100% Inspect kits for completeness

QC

Memo

0.00

Quality Control

11 10 19 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 75000****\*75000\***

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Item ID: D412-702-021

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID: U/R

Stop **\*NS2\***

Item Name: 13-Man Shoulder Harness, 4 point

Start Date: 10/14/2011 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 10/21/2011 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00							
<b>*130*</b>									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-702-021								
	Location: _____								
	<i>NEUC</i>								
140	QC21- Final Inspection - Work Order Release	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									

*Per 10/20 (1)**11/10/2007**C21110120*

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

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Page 1

Work Order ID: 75000

Parent Item: D412-702-021

Parent Item Name: 13-Man Shoulder Harness, 4 point

Start Date: 10/14/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B Removed Manufacturing 05-11-08 JLM  
 IPP Rev:C06.04.03As per DSI9324 JLM  
 IPP rev D 06.12.14 per ecn 871 EC  
 IPP Rev:E 07-03-14 As per DSI 9351 JLM  
 IPP Rev:F 07-07-28 As per Rev E JLM Verified By:ec IPP Rev.G 11.05.31 DSI  
 9559 EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN4-13A Bolt		Purchased	No			120	Each	1,166.0000	4	4			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST357		1166							
				118078		594							
				118706		72							
				118838		500							
AN4-20A Bolt		Purchased	No			120	Each	746.0000	8	8			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST359		746							
				116419		146							
				117514		300							
				118983		100							
				119127		200							
AN4-5A Bolt		Purchased	No			120	Each	170.0000	4	4			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST355		164							
				117508		164							
				ST356		6							
				116549		6							
AN960JD416 Washer	NAS1149D0463J	Purchased	No			120	Each	0.0000	20	20			
D3195-041 Bracket Assembly		Manufactured	No			120	Each	0.0000	2	2			

20 11/8/12 20 11/10/17  
 2 11/10/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Page 2

Work Order ID: 75000

Parent Item: D412-702-021


Start Date: 10/14/2011

Required Date: 10/21/2011

Parent Item Name: 13-Man Shoulder Harness, 4 point


Start Qty: 1.00

Required Qty: 1.00

 **D3195-043**  
Bracket Assembly

Manufactured No

120 Each 1.0000

 2 **B74612**

Location

Loc Qty

Loc Code

ST246A

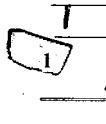
1

72925

1

Manufactured No

120 Each 1.0000

 1

Location

Loc Qty

Loc Code

ST260

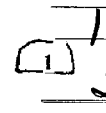
1

72921

1

Manufactured No

120 Each 4.0000

 1

Location

Loc Qty

Loc Code

ST260

4

72922

4

Manufactured No

120 Each 5.0000

 1

Location

Loc Qty

Loc Code

ST260

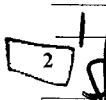
5

71904

5

Manufactured No

120 Each 2.0000

 2

Location

Loc Qty

Loc Code

ST260

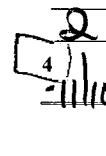
2

73102

2

Manufactured No

120 Each 14.0000

 4

Location

Loc Qty


Loc Code

ST246A

14

73275

14



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Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector,

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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# Picklist Print

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Work Order ID: 75000

Parent Item: D412-702-021

Start Date: 10/14/2011

Required Date: 10/21/2011

Parent Item Name: 13-Man Shoulder Harness, 4 point

Start Qty: 1.00

Required Qty: 1.00

D3268-1  
Placard

Manufactured No

120 Each 12.0000

2 2

Location

Loc Qty

Loc Code

ST246A

12

74613

12

Manufactured No

120 Each 28.0000

2 2

Location

Loc Qty

Loc Code

ST245

28

73444

28

Manufactured No

120 Each 7.0000

13 13 B7500 1 S ulioh

Location

Loc Qty

Loc Code

ST246A

7

74079

7

Manufactured No

120 Each 9.0000

7 1

Location

Loc Qty

Loc Code

FG122

9

74080

9

Manufactured No

120 Each 9.0000

9 9

Location

Loc Qty

Loc Code

ST263

9

73274

9

Manufactured No

120 Each 4.0000

9 4

Location

Loc Qty

Loc Code

ST263

4

70056

4

D4387-043

Harness Assembly

D412-702-069

Grommet

D3551-11

Hook and Loop Tie

D3546-1

Clip

D3268-1

Placard

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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# Picklist Print

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Page 4

Work Order ID: 75000

Parent Item: D412-702-021

Parent Item Name: 13-Man Shoulder Harness, 4 point

Start Date: 10/14/2011

Required Date: 10/21/2011

Start Qty: 1.00

Required Qty: 1.00

MS21042L4

Nut

Purchased

No

120

Each

14,225.000

12

12

## Location

## Loc Qty

## Loc Code

ST300

3225

117441

51

117601

557

117885

56

118451

1561

118927

1000

ST516

6000

119017

6000

ST518

5000

119075

5000

MS24694-S152

Screw

Purchased

No

120

Each

97.0000

8

8

## Location

## Loc Qty

## Loc Code

ST289A

1

116440

1

ST290

96

119108

96

MS24694-S154

SCREW

Purchased

No

120

Each

86.0000

8

8

## Location

## Loc Qty

## Loc Code

ST290

86

119022

86

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

QTY -021	QTY -023	QTY -025	QTY -027	QTY -029	QTY -035	Part Number	Description
X						D412-702-021	Dart 13-Man Shoulder Harness Kit, 4-point
	X					D412-702-023	Dart 5-Man Forward Facing Shoulder Harness Kit, 4-point
		X				D412-702-025	Dart 4-Man Aft Facing Shoulder Harness Kit, 4-point
			X			D412-702-027	Dart 4-Man Side Facing Shoulder Harness Kit, 4-point
				X		D412-702-029	Dart 1-Man Forward Facing Shoulder Harness Kit, 4-point
					X	D214-702-035	Dart 5-Man Aft Facing Shoulder Harness Kit, 4-point, for Bell 214B/B-1
1	1		1	1		D412-702-069	GROMMET KIT
2	2					D3195-041	BRACKET
2	2					D3195-043	BRACKET
1	1			1		D3196-1	BAR
1			1			D3196-3	BAR
1			1			D3196-4	BAR
2	2					D3197-041	BAR
4		4				D3198-1	FITTING
2	2					D3268-1	PLACARD
9	5		4	1		D3446-041	HARNESS ASSEMBLY, 4 POINT
4		4				D3446-043	HARNESS ASSEMBLY, 4 POINT
					5	D3446-045	HARNESS ASSEMBLY, 4 POINT
13	5	4	4	1	5	D3551-11	HOOK AND LOOP TIE
2	2					D3546-1	CLIP
4		4				AN4-5A	BOLT
4	4					AN4-13A	BOLT
8		8				AN4-20A	BOLT
20		20				AN960JD416	WASHER (OR NAS1149D0463J)
12		12				MS21042L4	NUT (OR MS21042-4)
8	2		6	2		MS24694-S152	SCREW
8	2		6	2		MS24694-S154	SCREW

QTY -069	Part Number	Description
X	D412-702-069	GROMMET KIT
24	D3619-2	GROMMET
1	D3619-2T1	HOLE PUNCH
1	D3619-2T2	STRIKER BLOCK
1	D3619-2T3	PUNCH
1	D3619-2T4	DIE

REFERENCE ONLY

## **DART SERVICE INSTRUCTION**

TO AMEND IIN-D412-702-1 REV. A,  
AND ICA-D412-702 REV. 4 OR EARLIER APPROVED REVISIONS  
REF. TCCA STC: SH04-7  
REF. FAA STC: SR01997NY  
REF. EASA STC: EASA.IM.R.S.00710

### **PURPOSE**

The purpose of this DSI is to outline the replacement of existing D3446-041/-043 Shoulder Harnesses with the new and improved D4387-041/-043 Shoulder Harnesses.

### **CHANGE**

For the following Kits, the D4387-041 and D4387-043 Shoulder Harnesses respectively replace the D3446-041 and D3446-043 Shoulder Harnesses as follows:

Old Harness P/N	Used On	New Harness P/N	Effectivity
D3446-041	D412-702-021	D4387-041	CHG 003 and subsequent
	D412-702-023		CHG 002 and subsequent
	D412-702-027		
	D412-702-029		
D3446-043	D412-702-021	D4387-043	CHG 003 and subsequent
	D412-702-025		CHG 002 and subsequent






Customers who want to upgrade their shoulder harnesses may replace their existing D3446-041/-043 with D4387-041/-043 per this service instruction.

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY:   
D. SHEPHERD (DE # 02)

DATE: 11.05.09  
CERT. NO.: SH04-7  
ISSUE NO.: 3

A	NEW ISSUE	MB	11.05.09
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9559	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		HARNESS CHANGE	NTS
DATE	11.05.09	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	